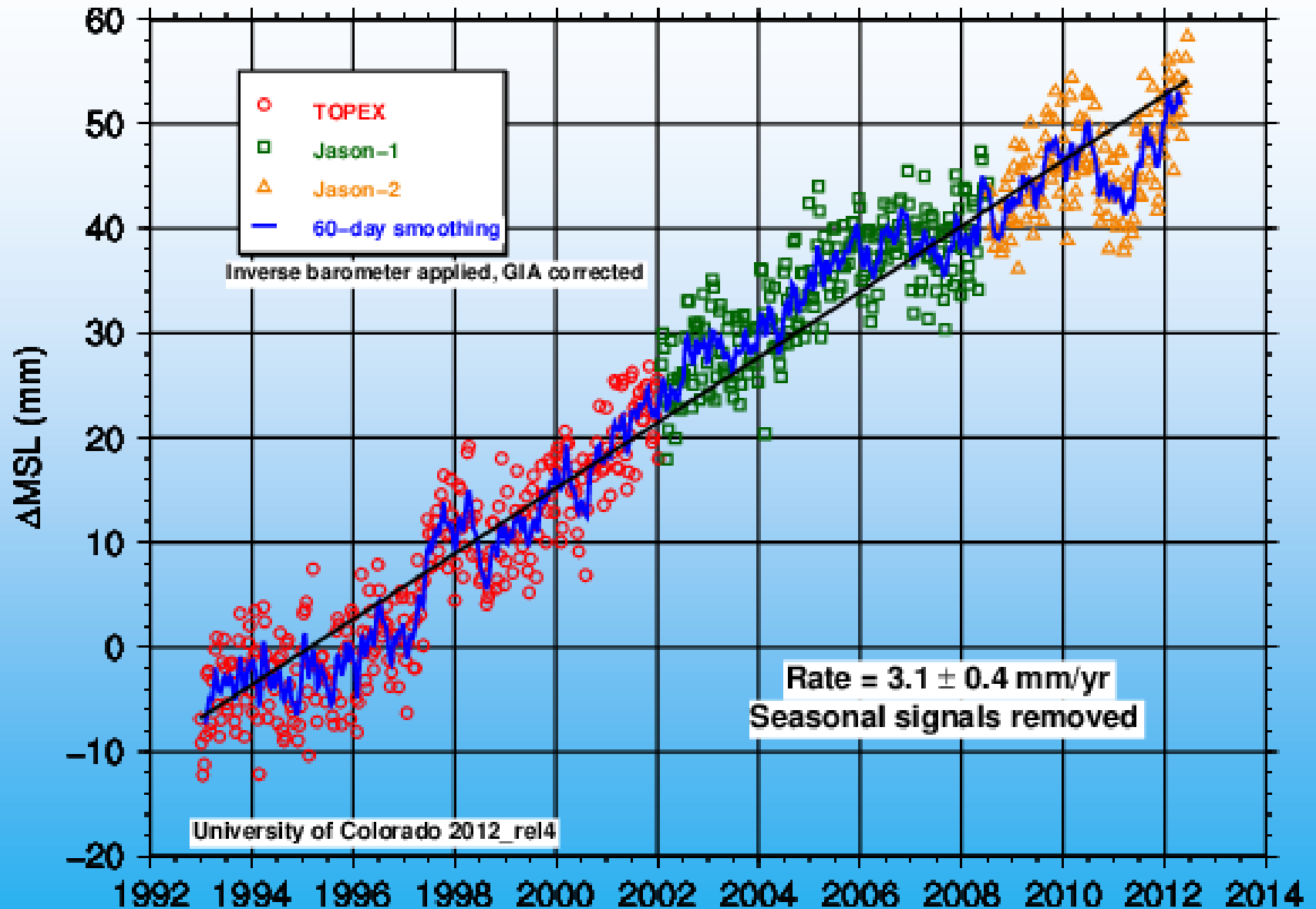
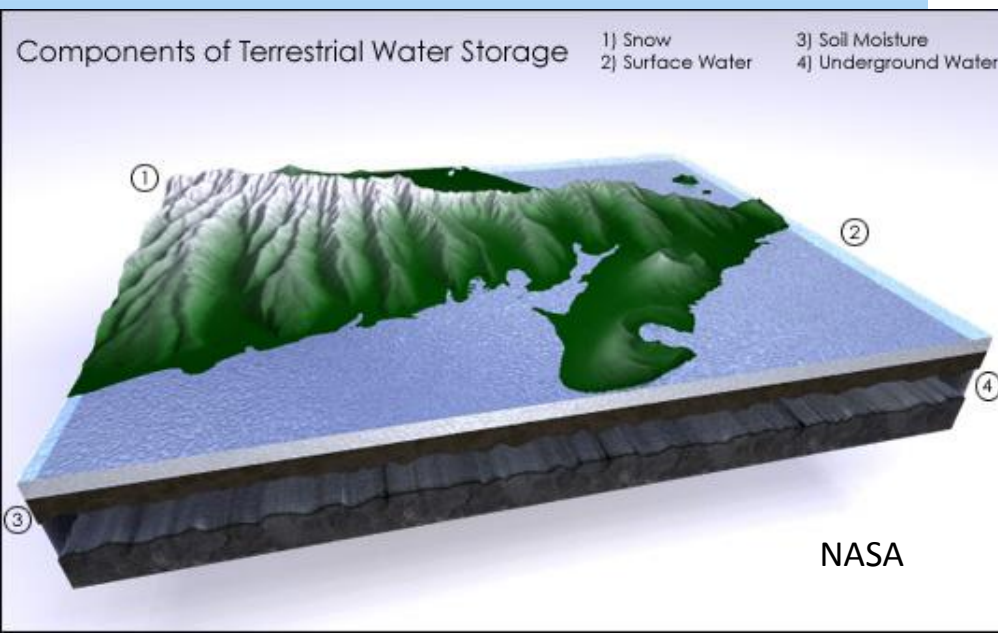
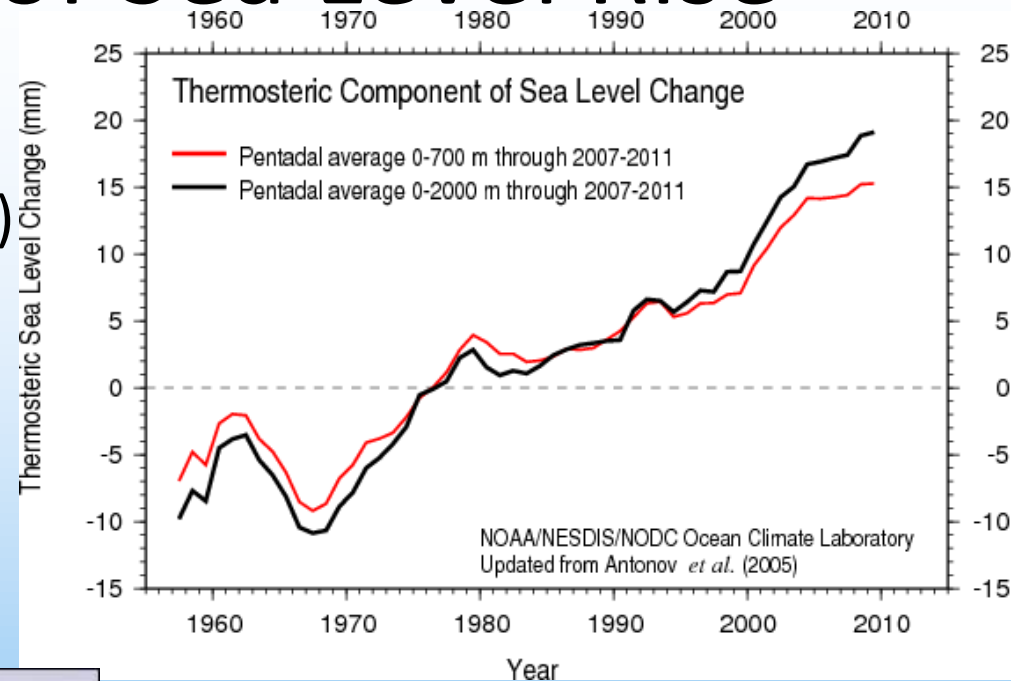


Global Sea Level Rise



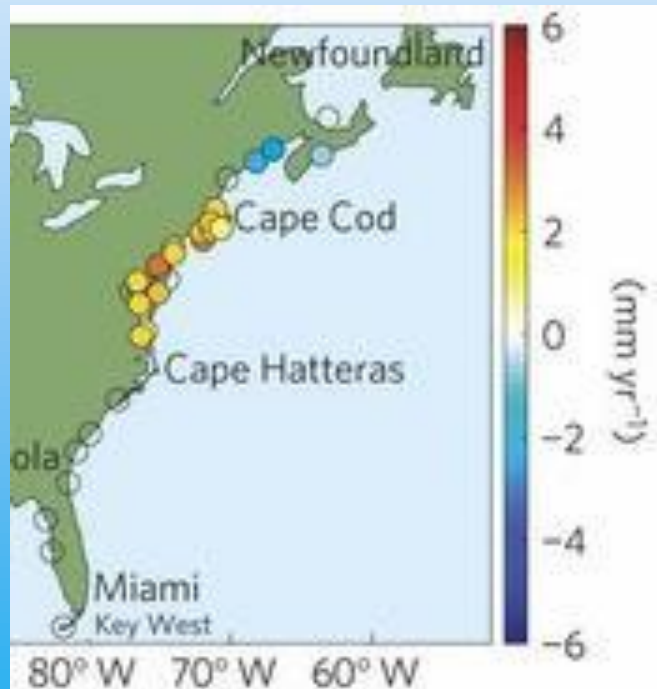
Physical Basis of Sea Level Rise

- Global SLR components
 - Steric (thermal expansion)
 - Ice melt
 - Terrestrial water storage

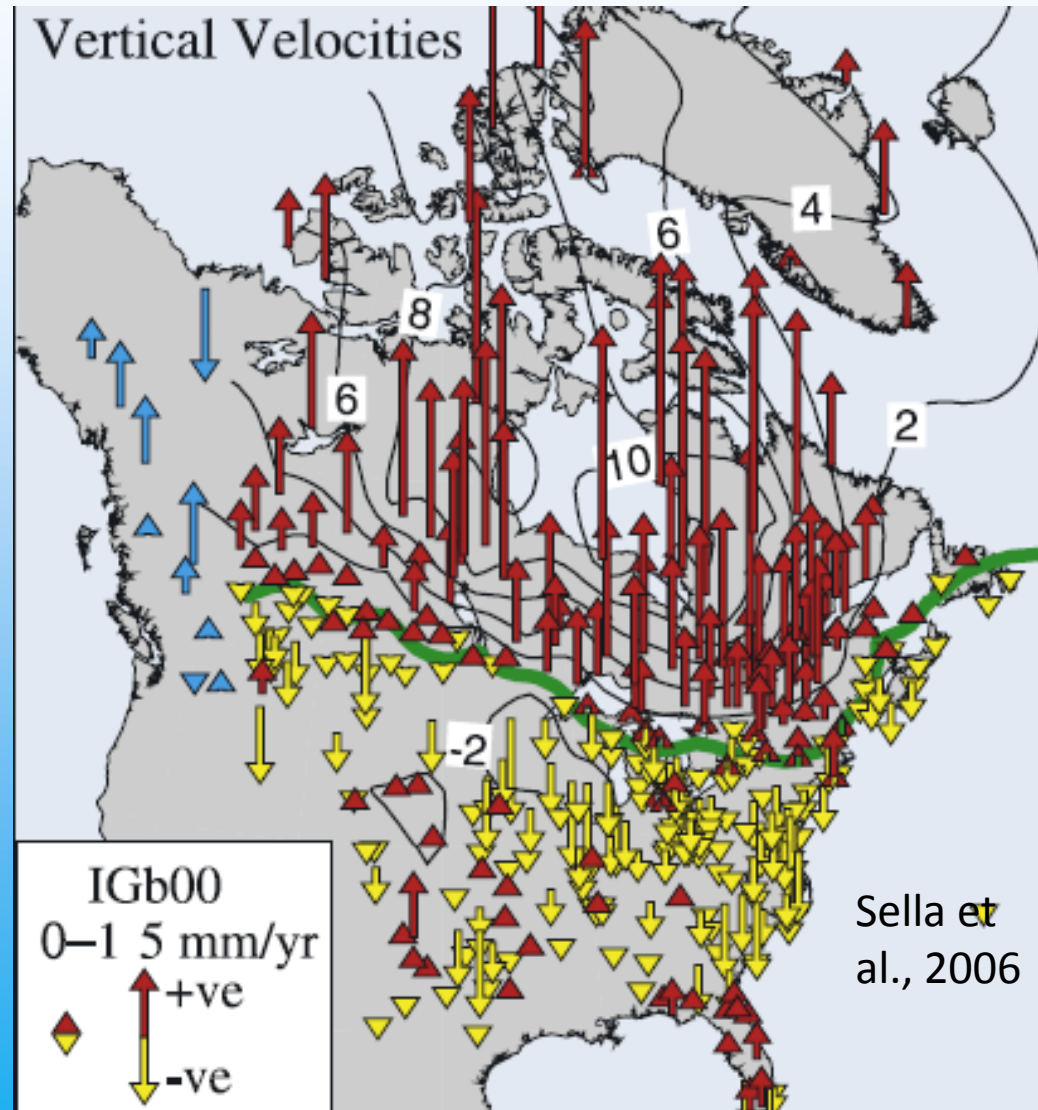


Physical Basis of Sea Level Rise

- Regional (relative) SLR components
 - Glacial isostatic adjustment
 - Water surface elevation



Sallenger et al., 2012



Sea Level Rise Projections

Mid-Hudson Valley & Capital Region	Baseline (1971 – 2000)	2020s	2050s	2080s	2100
Sea Level Rise ¹ (inches)	NA	1 to 4	5 to 9	8 to 18	11 to 26
Sea Level Rise ² Rapid Ice Melt (inches)	NA	4 to 9	17 to 26	37 to 50	52 to 68

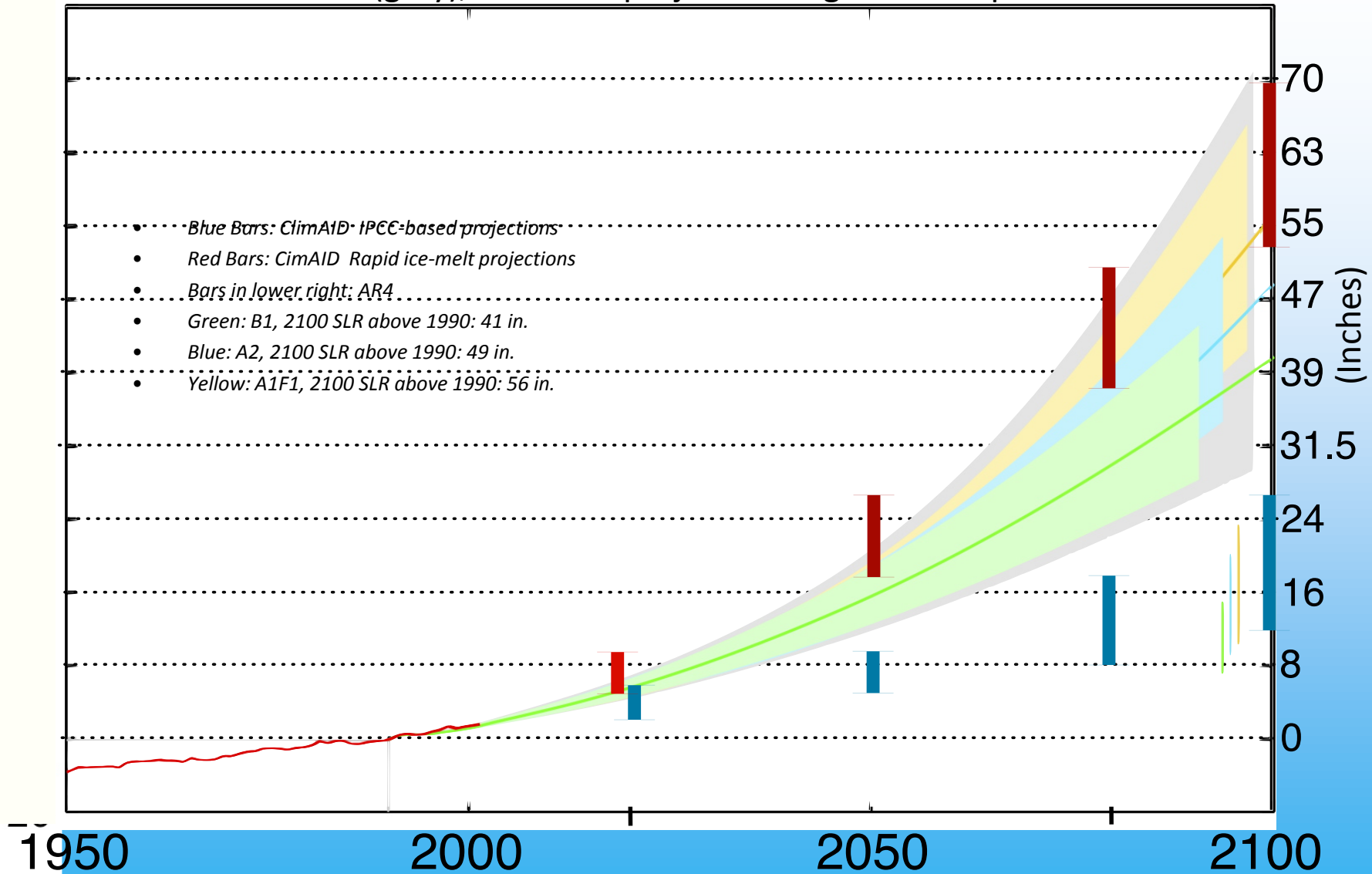
¹ Shown is the central range (middle 67%) of values from model-based probabilities rounded to the nearest inch.

² The rapid ice melt scenario is based on acceleration of recent rates of ice melt in the Greenland and West Antarctic Ice sheets and paleoclimate studies.

Observed annual global sea level 1950-2003 (red) and projected sea level rise from 1990 to 2100 (grey), based on projected long term temperature trends.

Sea Level Change

- Blue Bars: ClimAID- IPCC-based projections
- Red Bars: CimAID Rapid ice-melt projections
- Bars in lower right: AR4
- Green: B1, 2100 SLR above 1990: 41 in.
- Blue: A2, 2100 SLR above 1990: 49 in.
- Yellow: A1F1, 2100 SLR above 1990: 56 in.

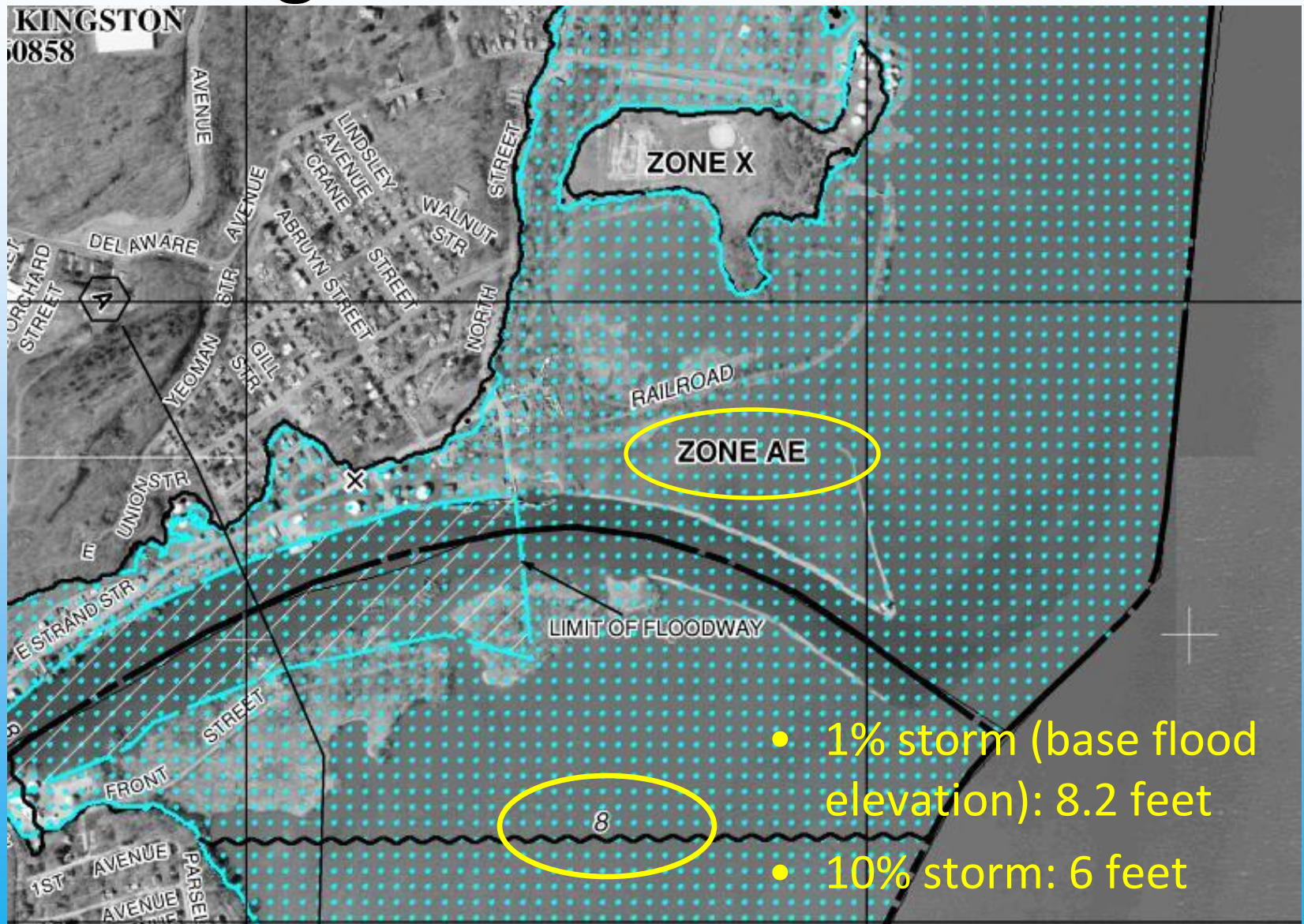


Proposal

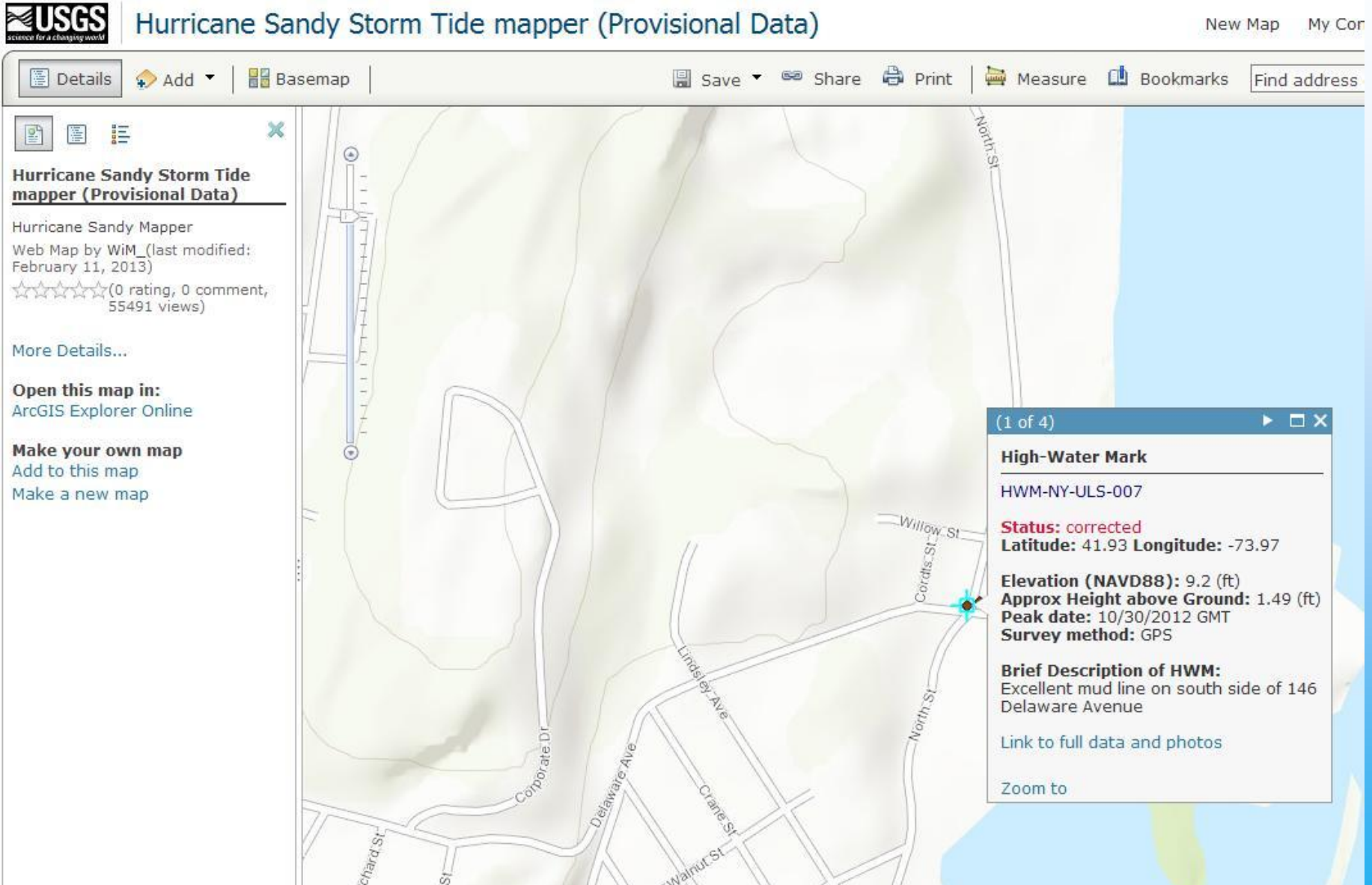
Planning horizon: 2050-2100

Sea Level Rise Scenario	Year	2050	2100
	Low	17 inches	36 inches
	High	26 inches	68 inches

Kingston Flood Elevations



Sandy's Storm Tide



Proposal

Planning horizon: 2050-2100

COAST: 2 SLR scenarios, 2 flood frequencies

DOS CRRP: 1 SLR scenario, 2 flood frequencies

COAST			DOS
17-36", 1%	17-36", 10%		36", 1%
26-68", 1%	26-68, 10%"		36", 10%